

INSTRUCTIONS
FORM F19a
Vertical Fixed Roof Storage Tanks

Department of Environmental Quality
Division of Air Quality
P.O. Box 144820
Salt Lake City, UT 84114-4820
Telephone (801) 536-4000

Storage Vessel ID	Provide identification number.
SCC	Enter the appropriate Source Classification Code (SCC). See General Instructions for explanation.
Type of Material Stored	List the type of liquid stored in the tank (i.e., gasoline, crude oil, jet naphtha, etc.). Please make sure that the products stored are listed in Tables 7.1-2,3&5 of AP-42, 5th edition. If they are not listed, use the Supplement Form 18-19 to provide data for TANKS 4.09D (see <i>Note</i>).
Storage Capacity	Storage capacity should be in 10 ³ gal.
Shell Height	Enter the actual height of the tank in feet.
Tank Diameter	Tank diameter should be in feet.
Max. Height	Enter the maximum height in feet of the liquid within the tank shell.
Average Height	Enter the average height in feet of the liquid within the tank shell.
Shell Color/Shade	Describe the color and shade combination of the paint on the shell of the tank (i.e., white/white, aluminum/specular, aluminum/diffuse, gray/light, gray/medium, and red/primer).
Shell Paint Condition	Describe the condition of the paint of the tank shell (i.e., good or poor).
Roof Color/Shade	Describe the color and shade combination of the paint on the roof. See Shell Color/Shade above for combinations.
Roof Paint Condition	Describe the condition of the paint on the tank roof (i.e., good or poor).
Roof Type	Describe the roof type (i.e., dome or cone).
Roof Height	Enter the height of the tank roof in feet.
Roof Radius	Enter the radius in feet of a dome roof.
Roof Slope	Enter the slope of a cone in ft/ft. Assume 0.0625 ft/ft if the slope is unknown.
Vacuum Setting	Enter the storage tank vacuum setting in pounds per square inch gauge (Psig).

Pressure Setting	Enter the storage tank pressure setting in pounds per square inch gauge (Psig).
Avg. Surface Temp. (optional)	Enter average surface temperature of the liquid in °F.
Surface Vapor Press.	Provide average vapor pressure of the liquid in pounds per (optional) square inch absolute (Psia).
Molecular Weight	Provide the molecular weight of the liquid stored in the tank in lb/lb mole.
Annual Turnovers	Calculate the number of the turnovers per year by dividing the net throughput by the storage capacity.
Annual Total	Provide annual total throughput in 10 ³ gal.
Standing Loss	Show standing loss in tons per year.
Working Loss	Show working loss in tons per year.
Total Loss	Enter the sum of standing loss and withdrawal loss.
Vapor Recovery % Ctrl Efficiency	Provide vapor recovery efficiency if the tank has a recovery system.
Estimate Code	Choose an estimate code from Table 5 of the General Instructions.
Comment	Provide any additional information necessary for calculation of emissions.

Note:

The U.S. EPA recommends the use of the latest version of TANKS (currently version 4.09D) for the estimation of emissions from storage tanks. TANKS is designed for use by local, state, and federal agencies, environmental consultants, and others who need to calculate VOC emissions from organic liquid storage tanks.

TANKS is a Windows-based computer software program that computes estimates of volatile organic compound (VOC) emissions from fixed- and floating-roof storage tanks. TANKS is based on the emission estimation procedures from Chapter 7 of EPA's Compilation Of Air Pollutant Emission Factors (AP-42), plus recent updates from the American Petroleum Institute. A user's manual, included with the program, explains the many features and options of TANKS. The program includes on-line help for every screen.

The software can be downloaded from the EPA web page in a ZIP format from:

<http://www.epa.gov/ttn/chief/software/tanks/index.html>

or provide the necessary data on Supplement Form 18-19, and DAQ will run the software to estimate the emissions.

Be aware that if you choose to run TANKS 4.09D, you must include the full output of TANKS 4.09D with your emissions inventory submittal.